



SEVEN

The 4G Personal Emergency Response System



The most reliable 4G cellular and internet connected personal emergency response system in the telecare market.

What is it?

SEVEN is Chiptech's new 4G offering that provides multiple communication pathway reporting options, and peripheral safety checks.

The simplified user interface combines status indicators with buttons to keep users informed of any changes to their system that could impact performance. Voice messages and lights are used to provide event notifications and reminders, along with automated system messages.

SEVEN is compatible with existing Chiptech GO, Pearl, and SID products, as well as Chiptech software for monitoring. This includes Chiptech Wizard and SmartCare Cloud connectivity to enable fleet updating.

Data sent on 4G, and voice call back over the VoLTE (Voice over Long Term Evolution) on 4G or 3g network, unlike other personal emergency response systems that rely only on the 3G network for voice back.

Who is it for?

Advanced technology has been smartly wrapped in an easy to use system that provides peace of mind to people who are living independently. For those in the community who may be frail and feeling vulnerable, they can be safe and secure in the knowledge that help is only a button press away.



How does it work?

When help is needed at any time of the day or night, press and hold the button on the personal help button and count to three. The outer rim of Pearl will flash red to let the user know that the call for help has been received by the base unit, and will be sent to monitoring.

When an alert for help is activated, a loud ten second pre-alarm will sound from the base unit. If it is a false activation for any reason, then the alert can be cancelled during this period by pressing the 'Cancel' button on the base unit.

Once the pre-alarm has finished, voice messages will play to keep the user informed while they are being connected to monitoring. When the help alert has been received by an operator, they can call back and speak to the user through the automatic speakerphone, and organise the assistance that is needed.



Features

Multiple reporting pathways enabled by dual micro SIM slots for data reporting over 4G cellular network, and voice call back using VoLTE. The cellular module is supported in the 5G network (Cat 1).

Built-in cellular antenna. Also available as an external antenna model to support installations in low coverage areas.

Built-in hardware, **yet to be enabled:**

- WiFi and Ethernet connectivity for reporting to monitoring over the Internet, voice back over cellular.
- GNSS unit precise locating.
- WiFi and Bluetooth for connection with peripherals and IoT devices.
- Ethernet and WiFi constant connection 'pingability.'

Audio

Improved speaker with adjustable volume settings.

Comprehensive voice files to provide clear information to end user and installers.

Additional voice messages that can be triggered to notify end users about emergency events such as flood or fire, request an evacuation, or deliver a social notification at a predetermined time. e.g. A birthday message.

Visual

Lights under the buttons change colour to indicate a change in status, using an easy to understand traffic light system.

Adaptive light sensor to change indicator lights to an appropriate level of brightness.

Backlit buttons and an optional under glow make the product easy to locate and use in low light conditions.

Indicator Buttons

SEVEN has five buttons, four of which are multifunctional. The three buttons on the left; Power, Connect, Info, all have associated notifications. If there is a message to be heard, or an action required, these buttons will change colour to orange, red, or blue.



Power – Hold for a short time to turn on from battery (or plug in to mains power for automatic start up). Press to hear the power notification speak, and hold to turn off.



Connect – Press to hear what communication pathways are enabled, along with the status of each connection. Press and hold to initiate the communication pathway test. Press to send daily call to monitoring, if configured to do so. Press three times to perform an immediate cloud connection, to apply an update.



Info – Press to hear any voice messages repeat, including request to test pendant, reminder, or emergency event message. Press and hold to enter learn mode. Press three times to enter range test mode.



Cancel button – Used to cancel any function, including voice notifications, an alert during pre-alarm, to exit installer (programming) mode and to activate/deactivate the Away Function (which halts automated reporting to monitoring when the user is away from home for an extended period). Also used to toggle through different options in installer mode.



Help button – Used to send an emergency alarm and change settings in installer mode. The help button is dimly backlit during normal operation so it can be located in the dark.



Installation and Operation

Modes

Learn mode, range test, and the installer setup are all accessed by the top buttons on SEVEN, or a combination of button presses. These modes have a safety timeout period to return the unit to standard operation after a short period of time.

'Installer Setup' can include the following options:

- Pre-alarm volume
- Notification volume
- Ring volume
- Button brightness
- Communication pathway
- Pendant testing interval
- Test signal interval

Future Developments

Home and Away – Press and hold the 'Cancel' button during normal operation and it will announce "Away mode enabled". No RF device tracking will be reported, and the 'Cancel' button will flash left/right.

Pressing the 'Cancel' button again will return it to home mode. When this function is enabled or disabled reports can be sent to monitoring.

Daily Call – Enabled in config, and pressing the 'Connect' button will send a report to monitoring that doesn't require an operator's interaction. If the 'Connect' button isn't pressed, then the monitoring centre will try to make contact with the user to check if they are OK.

Voice Announcements – Can be triggered remotely or scheduled to occur automatically. These can include reminders, alerts to events, or emergencies. Voice announcements can be repeated by pressing the 'Info' button.

Acknowledgement of announcements is logged and can be reported.

Pingability – Constant data connection, so systems can 'ping' to check the status of base unit. Ethernet and WiFi, GNSS precise locating.

Safety Features	SEVEN
Secure SIMs – SIM slots located under secure battery compartment.	✓
Automated pendant testing – RF tests are logged every 7 hours from peripheral devices learnt into SEVEN. Multiple missing RF tests are reported to monitoring and can be notified locally. This ensures a peripheral is still in range and able to communicate to SEVEN. If the peripheral reports again, a restore report is sent. RF battery status is also reported to monitoring.	✓
Bi-directional – Transceivers confirm that the base unit has received the alert from the pendant, the outer edge of Pearl flashes upon confirmation.	✓
Mains only – SEVEN can run solely off its DC plug pack, which means that in the event of the battery being discharged or removed, it is still fully functional.	✓



Technical Details

System: SEVEN is supplied with a customised top label, a Pearl pendant transceiver, a plug pack, fitted battery pack, optionally fitted SIM(s) and user guide, programmed at production with specified files and settings, ready for installation.

Dimension: 119W x 189L x 50H mm and weighs 400-500g.

Packaged: Recyclable cardboard box 240W x 200L x 60H mm and weighs 600-700g with all components included.

Battery and Charging

Capable of running solely off its battery pack for over 40 hours in ideal conditions, to provide peace of mind in the event of a power outage.

Industrial grade pack NiMH batteries, automatically rechargeable in under 24 hours, and replaceable if required. Regular battery maintenance (every 90 days) ensures high capacity and life of battery.

Low capacity battery packs detected and reported. Missing or non-functioning battery pack reported. Low battery warning following mains failure at approximately 20% of capacity remaining.

Service Life

Main internal battery pack may need to be replaced after approximately 6 years. The plug pack MTBF is 50,000 hours and is replaceable. SEVEN dependent on the availability of the networks that it communicates over, which includes the 4G network connectivity and WiFi version 802.11 b/g/n/e/l

Environmental

Manufactured with 25% fewer plastic parts than previous EVE base unit. Lead free and RoHS compliant. Packaging is recyclable and uses food safe inks.

Temperature: Operating temperature of 0 – 40°C

Humidity: 90% humidity (non condensating).

Communications/Protocols

Pearl Radio Frequency

Range 300m+ typical in open air between Pearl personal help buttons and SEVEN.

Up to 16 Pearl transceivers can be learned and tracked by SEVEN, for test transmissions. Learn mode doesn't delete. This will be increased to 32 with a future update.

869MHz in New Zealand and Europe, or 916 MHz in Australia.

Ethernet and WiFi

When Internet (Ethernet or WiFi) is configured as the primary reporting path, cellular data costs are reduced for reporting, applying updates and downloading information.

Ethernet supports 10/100Mbps connections, WiFi 802.11 b/g/n/e/l

During power failure the Wi-Fi and Ethernet may be turned off to save power.

Cellular Frequency + 3G Frequencies

SEVEN LE: 3G & 4G (LTE) Cat 1: B28, B5, B8, B3, B1

SEVEN ME: 4G (LTE) Cat M1: B28, B3

Upgrade

Option port for direct connection for updating and downloading log files using the Chiptech Wizard.

Remote update and log download using the Chiptech Wizard.

Fleet wide / global updates facilitated as a service via SmartCare Cloud.



Standards:



PC / ABS

RoHS



R-NZ



Packaging:



Designed and manufactured in New Zealand by Chiptech Limited

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Chiptech

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